

The Discovery of Rubber.

The history of the introduction of the potato and tobacco to Europe is known to every school boy but how many of the thousands interested in rubber know anything of its origin? The following extracts taken from the India Rubber World, March 1st, 1920, should prove very interesting to Malaya. "How India Rubber was made known to Europe by Charles Marie de La Condamine, of the Academy of Sciences, and later of the French Academy is told very entertainingly by André Dubosc in his "*Histoire du Caoutchouc*." La Condamine separated from a scientific expedition with which he was travelling to Ecuador and Peru, and made his way alone across the Andes to Quito. "He was a good botanist and he kept his eyes open, and on reaching Quito the first thing he did was to send to the Academy of Sciences "some rolls of a blackish, resinous material" which he had gathered in the forests, namely, caoutchouc. This was in 1736." "La Condamine in writing home explained that this liquid flowed out of a tree, *Hevé*, after a single incision, milk-white and gradually hardening and blackening in the air. The natives made torches of it; they spread the liquid on cloth and used it as we use waxed cloth. Along the Amazon the Indians made boots of it which kept out the water; they put it around molds shaped like bottles, and when the gum had hardened they broke the mold, producing a light, unbreakable bottle that would hold any liquid. He set to work himself and made waterproof cloths, and also a splendid rubber case for his quadrant. He noted too, that the natives made small bottles of the rubber which they filled with hot water and used as syringes; they in consequence, called the tree, *seringueira*.

"By September, 1742, after he had made important discoveries in physics and mathematics, he decided that his work was done and that he would make his way down the Amazon to the French settlement at Cayenne, a journey of 2,000 miles in nearly unexplored regions. He made the journey alone, with only native attendants and reached Guiana in May, 1743. On his trip he had plenty of opportunities of examining the manner in which the rubber grew and the natives utilized the rubber. As France was at war with England he was obliged to wait two years at Cayenne before returning home, but he reached La Rochelle at last on March 7, 1745. He returned to his literary pursuits and told in the salons the story of his adventures and the wonderful qualities of the rubber which he had found, specimens of which he exhibited. Paris of the eighteenth century, however, did not take the discovery any more seriously than it did the beginnings of modern science, and it was reserved to Hancock and Goodyear in the following century to break the way for the modern uses of rubber.

"In the five years following his return La Condamine wrote six big volumes, and, despite his social activities and his literary quarrels, kept up his interest in rubber. His friend Fresneau found the rubber tree in Guiana and wrote to him the description of the native method of gathering it, smoking it and using it. He and

the French chemists who examined the new substance reached conclusions that are startlingly similar in many points to those reached by modern rubber chemists. Fresneau, for instance, thought it was a kind of condensed resinous oil; the name now used is polyterpene. To prevent it from sticking he used Spanish white, ashes or dust.

"La Condamine induced other explorers to search for rubber and learned before he died in 1775 that it had been found in the Isle de France and in Madagascar. Nevertheless, the only practical commercial use found for the caoutchouc in that century was as an eraser of pencil marks, which led to Priestley's christening it by the name it has retained in English, "india rubber"."

T. F. C.

How to Destroy Large Jungle Trees.

In clearing the jungle from an estate it is often a great source of trouble and expense to get rid of the large jungle trees. Too often does one see their stumps and roots remaining, a ready centre of fungus infection to the rubber trees just when they are beginning to bear at their best. The following note taken from the Indian Forester, May, 1920, may be of assistance to those about to clear jungle. Of course this method can only be employed whilst the tree is yet living.

"Where it is desired to destroy a tree without cutting it down, a hole is bored in the tree in a downward direction to the centre. For large trees an inch auger is used; for smaller ones $\frac{1}{2}$ inch size is large enough. For large trees 1 oz. to 2 oz. of ordinary commercial saltpetre (nitrate of potash) is used, and for smaller ones $\frac{1}{2}$ oz. to 1 oz. A plug is put into the hole to keep the rain from washing it out. The nitrate of potash is carried by the sap to the tips of the branches and the rootlets. If the tree is a large one, say, 2 feet or more in diameter, very little difference will be noticed in the foliage for 2 or 3 months, then the leaves begin to fall, and it assumes a bare wintry appearance. At the end of about 6 or 8 months a little brushwood is piled around the tree and lit; it will smoulder away to the remote ends of the roots, sometimes 30 feet away from the tree, leaving masses of valuable ash; the tree will fall, and when fallen it will continue to smoulder until every particle is converted into ash.—["A Hand-book of Forestry" by A. D. Webster.] "

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